

HSP 60 (SPM253): sc-65568

BACKGROUND

The heat shock proteins (HSPs) comprise a group of highly conserved, abundantly expressed proteins with diverse functions, including the assembly and sequestering of multiprotein complexes, transportation of nascent polypeptide chains across cellular membranes and the regulation of protein folding. HSPs (also known as molecular chaperones) fall into six general families: HSP 90, HSP 70, HSP 60, the low molecular weight HSPs, the immunophilins and the HSP 110 family. The constitutively expressed mitochondrial protein HSP 60 shares the ability to recognize and stabilize proteins during folding, assembly and disassembly with other HSP family members. The mitochondrial and cytosolic localization of HSP 60, combined with its binding and catalysis of folding of newly synthesized proteins destined for the mitochondrial matrix, classify this protein as a molecular chaperone. An additional role of HSP 60 is to act as a cell surface marker for γ/δ T cell recognition.

REFERENCES

1. Ritossa, F. 1962. A new puffing pattern induced by temperature shock and DNP in *Drosophila*. *Experientia* 18: 571-573.
2. Lemeaux, P.G., et al. 1978. Transient rates of synthesis of individual polypeptides in *E. coli* following temperature shifts. *Cell* 13: 427-434.

CHROMOSOMAL LOCATION

Genetic locus: HSPD1 (human) mapping to 2q33.1; Hspd1 (mouse) mapping to 1 C1.2.

SOURCE

HSP 60 (SPM253) is a mouse monoclonal antibody raised against recombinant HSP 60 corresponding to amino acids 383-447 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HSP 60 (SPM253) is recommended for detection of HSP 60 of mouse, rat, human, bovine, porcine and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 μ g per 1×10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HSP 60 siRNA (h): sc-29351, HSP 60 siRNA (m): sc-35604, HSP 60 shRNA Plasmid (h): sc-29351-SH, HSP 60 shRNA Plasmid (m): sc-35604-SH, HSP 60 shRNA (h) Lentiviral Particles: sc-29351-V and HSP 60 shRNA (m) Lentiviral Particles: sc-35604-V.

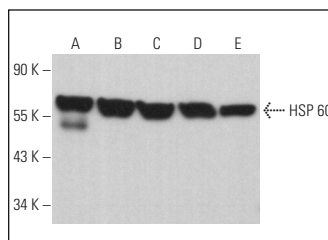
Molecular Weight of HSP 60: 60 kDa.

Positive controls: HL-60 whole cell lysate: sc-2209, KNRK whole cell lysate: sc-2214 or NIH/3T3 whole cell lysate: sc-2210.

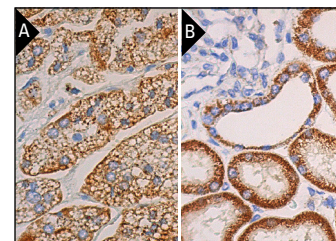
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HSP 60 (SPM253): sc-65568. Western blot analysis of HSP 60 expression in HL-60 (A), NIH/3T3 (B), F9 (C), KNRK (D) and PC-12 (E) whole cell lysates.



HSP 60 (SPM253): sc-65568. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (A) and human kidney tissue showing cytoplasmic staining of cells in tubules (B).

SELECT PRODUCT CITATIONS

1. Fan, H.Z., et al. 2009. Comparative proteomics and molecular mechanical analysis in CDA-II induced therapy of LCI-D20 hepatocellular carcinoma model. *J. Cancer Res. Clin. Oncol.* 135: 591-602.
2. Guan, J.J., et al. 2015. DRAM1 regulates apoptosis through increasing protein levels and lysosomal localization of BAX. *Cell Death Dis.* 6: e1624.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **HSP 60 (LK1): sc-59567** for HSP 60 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.